

Claim Amendments

Amend the claims to read as follows:

1. (canceled)
2. (currently amended) The ~~method~~device of claim 94 in which the membrane support is a single monolith.
3. (currently amended) The ~~method~~device of claim 94 in which the membrane support is a plurality of monolith segments.
4. (canceled).
5. (currently amended) The ~~method~~device of claim 94 in which the permeate channels are slots at the end faces of the monolith and are sealed to isolate the permeate chambers from feed and retentate.
6. (currently amended) The ~~method~~device of claim 94 further comprising in which the means of sweep fluid introduction and withdrawal are channels which communicate with an annular space between the membrane element and a permeate collection housing, at least one channel in fluid communication with the inlet port and at least one channel in fluid communication with the outlet port.
7. (currently amended) The ~~method~~device of claim 94 in which the ~~means of sweep fluid introduction and withdrawal are~~inlet and outlet sweep fluid ports communicate with ducts at the feed end face and the retentate end face of the monolith, respectively.
8. (canceled)
9. (new) A method of separating a feedstock into a retentate and a gas-phase permeate, comprising:

a) providing a membrane element that receives the feedstock at a feed end face, and separates the feedstock into a gas-phase permeate and retentate, the membrane element comprising:

i) a membrane support containing at least one monolith of porous material defining a plurality of passageways with passageway wall surfaces, the passageways extending longitudinally from the feed end face of the monolith to a retentate end face of the monolith;

ii) a permselective membrane coating applied to the passageway wall surfaces of at least the channels through which the feedstock flows; and

iii) at least one permeate conduit formed within the monolith, the conduit containing a plurality of longitudinal permeate chambers transected by permeate channels that are proximate the feed end face and the retentate end face of the monolith;

b) providing a housing assembly to contain the membrane element, the assembly comprising:

i) a means to contain the element;

ii) a feedstock inlet port in communication with the feed end face of the monolith, and a retentate outlet port in communication with the retentate end face of the monolith;

iii) a sweep fluid inlet port in fluid communication with the permeate conduit proximate one end face of the monolith, to allow for the introduction of a permeate sweep fluid into the permeate conduit;

iv) a sweep fluid and permeate outlet port in fluid communication with the permeate conduit proximate the other end face of the monolith, to allow for the withdrawal of the sweep fluid and permeate from the permeate conduit; and

v) a means of separating the sweep fluid and gas-phase permeate flows from the feed and retentate flows;

c) introducing a feedstock and withdrawing retentate while circulating a sweep fluid into the sweep fluid inlet port, through the conduit, and out the sweep fluid outlet port, to facilitate transfer of the permeate from the passageways into the permeate chambers.

10. (new) The method of claim 1 in which the sweep fluid inlet port is proximate the monolith retentate end face to accomplish countercurrent feedstock and sweep fluid flows.

11. (new) The method of claim 1 in which the sweep fluid inlet port is proximate the monolith feed end face to accomplish co-current feedstock and sweep fluid flows.